

ABSTRACT OF THE DISCLOSURE

A system for mapping a three-dimensional structure includes a projecting optical system adapted to project light onto an object, a correction system adapted to compensate the light for at least one aberration in the object, an imaging system adapted to collect light scattered by the object and a wavefront sensor adapted to receive the light collected by the imaging system and to sense a wavefront of the received light. For highly aberrated structures, a number of wavefront measurements are made which are valid over different portions of the structure, and the valid wavefront data is stitched together to yield a characterization of the total structure.